

The genus *Trillium* seems peculiarly subject to departures from the normal type and cases without number, affecting every part of the plant, have been recorded in our journals. A perusal of these shows how infinite are the combinations of abnormalities that can be found in individual plants. Various whorls of leaves of different shapes, some long-petioled and rising from the base of the stem, sepals white, petals green and petioled, ovary stalked, leaves and various parts of the flower wanting — these are but a few of the manifold changes that the various species of *Trillium* are subject to. Teratology is of great assistance in teaching us the morphology of the plant and hence is a study of much importance. It is hoped that due record will be made of the discovery of any new instance of variation in *Trillium undulatum*.

CAMBRIDGE, MASSACHUSETTS.

THE NEW ENGLAND SPECIES OF PSEDERA.

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ANOTHER old name has come to light to replace one of our well known generic names, for there is no doubt that we must on the ground of priority substitute the name *Psedera*¹ of Necker (Elem. Bot. 1:158. 1790) for *Parthenocissus* and also for *Ampelopsis* if we consider *Ampelopsis quinquefolia* as belonging to the latter genus. Greene, who seems to have studied very thoroughly Necker's much neglected and misunderstood work, has recently drawn attention to the fact that Necker's *Psedera* usually referred as a doubtful genus to the *Araliaceae* represents a genus based on *Hedera quinquefolia* of Linnaeus. Aside from his description the statement of Necker that the genus is based on a species of *Hedera* Linnaeus places Greene's identification beyond doubt, for Linnaeus describes only two species, *Hedera Helix* and *H. quinquefolia*, of which the second agrees exactly with Necker's description of his *Psedera*. The acceptance of this name

¹ The name is apparently shortened from *Pseudohedera*, which refers to the fact that its type had been first described as a species of *Hedera*.

relieves us of two other vexing nomenclatorial questions, the fixing of the type of *Ampelopsis* Michaux and the question whether *Quinaria* of Rafinesque should supersede *Parthenocissus* of Planchon. It will be remembered that *Ampelopsis* was published by Michaux (Fl. Bor. Am. 1:159. 1803) with three species without indication as to which one he considered the type of the genus. Torrey & Gray (Fl. N. Am. 1:245. 1838) took *Ampelopsis quinquefolia* as the type and referred the other species to *Vitis*, but 8 years before Rafinesque (Am. Man. Grape Vin. 6. 1830) had made *Ampelopsis quinquefolia* the type of his new genus *Quinaria*. Objections in regard to the validity of this name have been raised in account of an older homonym, Loureiro's *Quinaria* of 1790, which, however, is identical with *Cookia* Sonnerat of 1782, both being based on the same species, and therefore the older homonym being non-valid would not prohibit the use of *Quinaria* of Rafinesque. *Quinaria* and *Parthenocissus* will now become simple synonyms of *Psedera*, while *Ampelopsis* will also disappear as a genus, if *Ampelopsis cordata* and its allies are not considered as constituting a distinct genus; as it is hardly possible to separate them from *Cissus* by any constant and reliable characters, it seems best not to retain *Ampelopsis* as a genus.

Two species of *Psedera* occur in New England:¹

PSEDERA QUINQUEFOLIA Greene, Leaf. Bot. Observ. 1:220. 1906.
— *Hedera quinquefolia* Linnaeus, Sp. Pl. 202. 1753.— *Vitis quinquefolia* Lamarck, Ill. 2:135. 1793.— *Ampelopsis quinquefolia* Michaux, Fl. Bor. Am. 1:160. 1803.— *Cissus hederacea* Persoon, Syn. 1:143. 1805.— *Quinaria hederacea* Rafinesque, Am. Man. Grape Vin. 6. 1830.— *Parthenocissus quinquefolia* Planchon, De Candolle Monogr. Phan. 5:448. 1887. High climbing shrub fastening itself by the disks of its tendrils to the support. Leaf-buds in spring and the young branchlets at the tips light red. Tendrils with 5 to 8 disk-bearing ramifications. Leaves long-petioled, 5-foliolate or occasionally 3-foliolate; leaflets ovate to ovate-oblong, 5 to 10 cm. long, acuminate, usually narrowed at the base, coarsely and usually crenately serrate, dull green above, glaucescent beneath, usually of thickish texture. Flowers on slender pedicels in 3- to 6-flowered umbels terminating the ramifications of the unequally dichotomous or thyrsoidal corymbs usually crowded at the end of the branchlets and forming leafy panicles.

¹ For fuller citation of the synonymy see Rehder, Sargent's Trees & Shrubs 1: 183-190, (1905) and Mitteil. Deutsch. Dendr. Ges. 14: 129-136 (1905).

Fruits globose, 5 to 7 mm. thick, bluish black, and with slight bloom, seeds usually 2 or 3, with an orbicular or sometimes obovate chalaza. Flowers from the middle of July to the end of August. NEW HAMPSHIRE: Seabrook, Aug. 7, 1898, *E. F. Williams*. VERMONT: Burlington, Aug. 4, 1902, *A. Rehder*; Middlebury, July 7, 1878, and Sept. 30, 1880, *E. Brainerd*. MASSACHUSETTS: Amherst, August 15, 1902, *A. Rehder*; Blue Hills, Sept. 1, 1895, *W. H. Manning*, Sept. 9, 1905 *J. R. Churchill*; Cohasset, Aug. 4, 1902, *J. G. Jack*; Medford, July 31, *Wm. Boott*; Revere, Aug. 30, *E. F. Williams*; Oak Island, Revere July 16, 1882, *H. A. Young*; Lynn, May 23, 1903, *A. Rehder*; Cape Cod, Centreville, Aug. 11, 1903, *Clara I. Cheney*. RHODE ISLAND: Tiverton, Aug. 1879, *C. S. Sargent*. CONNECTICUT: Southington, July 17, 1898, *L. Andrews*. Distributed west to New York, Ohio, Indiana, Illinois and Missouri, south to Florida and Mexico.

PSEDERA QUINQUEFOLIA var. **hirsuta**, n. comb.—*Cissus hederacea* β . *hirsuta* Pursh, Fl. Am. Sept. 1:170. 1814.—*Ampelopsis hirsuta* [Donn, Cat. Hort. Cantabr. ed. 2. 50. 1802, nomen nudum] Roemer & Schultes, Syst. 5:321. 1819.—*Quinaria hirsuta* Rafinesque, Am. Man. Grape Vin. 6. 1830.—*Ampelopsis Graebneri* Bolle, Gartenfl. 48:257, tab. 1462. 1899.—*Parthenocissus hirsuta* Small, Fl. S. E. U. S. 758. 1903.—*Psedera hirsuta* Greene, Leaf. Bot. Observ. 1:220. 1906.—Differs from the type in the pubescence, which is found in specimens typical for the variety on almost all parts of the plant, while toward its northern range of distribution they are apt to become glabrescent and are sometimes only pubescent on the young shoots as are specimens seen from Middlebury and Burlington, Vt. The young shoots are usually of a brighter red than in the type and the seeds are somewhat larger, more lustrous and have a usually obovate chalaza. VERMONT: Burlington, Aug. 4, 1902, *A. Rehder*; Middlebury, Sept. 1, 1902, *E. Brainerd*. MASSACHUSETTS: Amherst, Aug. 15, 1902, *A. Rehder*. Distributed from Ontario (Dr. Wm. Macoun, orally) through western New England and along the western slope of the Alleghany mountains through New Mexico to Mexico. In the North this variety very rarely flowers and fruits, which suggests that it is not at home there, but probably introduced from the south by birds migrating north; many birds seem to be fond of the berries of *Psedera*.

The following varieties are sometimes met with in cultivation but are not found wild in New England:

PSEDERA QUINQUEFOLIA var. **murorum**, n. comb.— *Ampelopsis latifolia* Tausch, Flora 21:738. 1838.— *Ampelopsis hederacea* var. *murorum* Focke, Abh. Naturw. Ver. Bremen 4:560. 1875. A southern form distinguished from the type by its more numerous, usually 8 to 12 ramifications of the tendrils and the broader leaflets.

PSEDERA QUINQUEFOLIA var. **minor**, n. comb.— *Parthenocissus radicansissima* var. *minor* Graebner, Gartenfl. 49:286. 1900. This is apparently a form of the preceding variety and differs from it only in its smaller and broader, oval to orbicular-ovate, more slender-petioled leaflets.

PSEDERA QUINQUEFOLIA var. **Saint-Paulii**, n. comb.— *Parthenocissus Saint-Paulii* Graebner, Gartenfl. 49:283. 1900.— *Ampelopsis Saint-Paulii* Mottet, Rev. Hort. 79:567. 1907. A variety occurring in Iowa, Illinois, Missouri and Texas; differing from the type in the tendrils having 8 to 12 ramifications and in the elliptic to obovate leaflets gradually narrowed into a very short petiolule and pubescent beneath like the branchlets; it has more than any other variety the tendency to form aerial rootlets.

PSEDERA VITACEA Greene, Leaf. Bot. Observ. 1:220. 1906.— *Cissus quinquefolia* Sims. Bot. Mag. 51: tab. 2443. 1824.— *Ampelopsis hederacea* var. *dumetorum* Focke, Abh. Naturw. Ver. Bremen. 4:559. 1875.— *Quinaria quinquefolia* Koehne, Gartenfl. 41:402. 1892, not Rafinesque.— *Parthenocissus laciniata* Small, Fl. S. E. U. S. 759. 1905. A climbing shrub usually low and rambling over bushes, but occasionally climbing high into trees, fastening itself by the twining ramifications of the tendrils; branchlets like the leaf-buds green while young, distinctly swollen at the joints, branches always without aerial rootlets; tendrils with 3 to 5 slender twining ramifications without disks. Leaves long-petioled, 5- or occasionally 3-foliolate, leaflets oval to ovate-oblong, acuminate, usually narrowed at the base, coarsely serrate or incisely serrate with the teeth often spreading, bright or dark green and lustrous above, lighter green and lustrous beneath, glabrous or sparingly pubescent on the midrib beneath. Corymbs glabrous, on slender peduncles, opposite to the leaves and solitary, distinctly dichotomously branched, with usually elongated ramifications, 5 to 7 cm. broad. Berries subglobose, 6 to 8 mm. thick, bluish black without or with slight bloom; seeds usually 3 or 4, with an oval or obovate chalaza. Flowers from the end of June to the end of July. MAINE: Hartford, *J. C. Parlin*; Piscataquis River

valley, Foxcroft, July 17, 1895, *M. L. Fernald*. NEW HAMPSHIRE: Winchester, Aug. 1, 1898, *B. L. Robinson*. VERMONT: Charlotte, July 6 and October 11, 1879, *C. G. Pringle*; Manchester, Aug. 1, 1898, *M. A. Day*; Pownal, banks of Hoosic River, June 27, 1904, *J. R. Churchill, A. Rehder*. The specimens from Winchester are not typical but suggest a possible hybrid between *Psedera vitacea* and *P. quinquefolia*. Distributed from eastern Canada and New England through northern New York and the Great Lake region to Manitoba, Montana, Wyoming, Utah, Arizona, New Mexico, Texas, Kansas and Iowa.

The following varieties and forms can be distinguished:

PSEDERA VITACEA forma **macrophylla**, n. comb.—*Vitis quinquefolia* var. *macrophylla* Lauche, *Deutsch. Dendr.* 470. 1880.—*Ampelopsis quinquefolia* b. *latifolia* Dippel. *Handb. Laubholzk.* 2:474. 1892. This is only a garden form with large leaves, the leaflets being sometimes up to 10 cm. broad.

PSEDERA VITACEA var. **dubia**, n. comb.—*Parthenocissus hirsuta* Graebner, *Gartenfl.* 49: 251. 1900.—*Parthenocissus vitacea* var. *dubia* Rehder, *Mitt. Deutsch. Dendr. Ges.* 14:135. 1905. This is a somewhat doubtful form; it differs from the type in the usually rather sparse hairiness of the young branchlets and the under side of the leaves. I have never seen a specimen which agrees exactly with Graebner's description; the specimen upon which he based his description and supposed to be from the Eastern States could not be found in the Herbarium of the Berlin Botanical Museum, as I was looking there for it. Cultivated forms named by Dr. Graebner *P. hirsuta* show but a slight pubescence and suggest a hybrid between *Psedera vitacea* and *P. quinquefolia* var. *hirsuta*.

PSEDERA VITACEA var. **laciniata**, n. comb.—*Parthenocissus quinquefolia* δ *laciniata* Planchon in De Candolle, *Monogr. Phan.* 5:449. 1887.—*Psedera laciniata* Greene, *Leafl. Bot. Observ.* 1:220. 1906. This is the Rocky Mountain form and occurs in Wyoming, Colorado, Utah, Arizona and New Mexico. It differs from the type in its smaller, narrower and incisely serrate leaflets and their usually pale yellowish green color.

Besides these two species only one more occurs in North America; this is ***Psedera heptaphylla***, n. comb.—*Ampelopsis heptaphylla* Buckley, *Proc. Philad. Acad.* 1861:450.—*Vitis hederacea* var. *texana* Buckley ex Durand, *Bull. Soc. Acclim. Paris* 9:486. 1862.—*Psedera*

texana Greene, Leaf. Bot. Observ. 1:220. 1906. Occurs in Texas and is easily distinguished from *P. vitacea* by its 6- to 7-foliolate leaves.

Of the foreign species only the well known "Boston Ivy," so extensively planted for the covering of walls and buildings, need to be mentioned here; it is ***Psedera tricuspida***, n. comb.—*Ampelopsis tricuspida*, Siebold & Zuccarini, Abh. Akad. Wiss. Muench. 4:88. 1846.—*Parthenocissus tricuspida* Planchon, De Candolle Monogr. Phan. 5:452. 1887.—*Ampelopsis Veitchii* Hort. This species differs from its American congeners in having partly three-lobed and partly 3-foliolate leaves. As it flowers and fruits freely in southern New England, it may possibly soon become naturalized and carried even to localities remote from settlements through the agency of birds which are often seen feeding on the berries.

ARNOLD ARBORETUM.

NOTES ON THE VASCULAR PLANTS OF THE NORTH-EASTERN UNITED STATES.

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IN the course of work at the Gray Herbarium, it has been necessary, during the last few months, to assign new names to a considerable number of plants (many of them minor varieties and forms), which, either from changed views regarding their proper classification or more often from the provisions of the Vienna Rules of Botanical Nomenclature, can no longer be accurately designated by previously existing names and combinations. As the new combinations needful must from time to time be employed in the identification of specimens for persons preparing local floras or otherwise desirous to mention such names in publication, it seems best to record them here briefly with the explanatory synonymy.

ASPLENIUM PLATYNEURON (L.) Oakes, var. ***incisum*** (E. C. Howe), n. comb. *A. ebeneum* Ait., var. *incisum* E. C. Howe, Ann. Rep. Regents Univ. N. Y. xxii. 104 (1869); Gordinier & Howe, Fl. Rensse-